

## **AMENDMENTS TO THE CLAIMS**

### **Listing of Claims:**

Claims 1-20 (cancelled).

Claim 21 (**currently amended**) The method of claim 38, comprising A method of modulating, attenuating, or decreasing obesity in an individual comprising the administration of a 1, 25-dihydroxyvitamin D (1,25-(OH)<sub>2</sub>-D) receptor antagonist.

Claim 22 (previously amended) The method of claim 21, wherein said antagonist comprises an antibody that binds to said 1,25-(OH)<sub>2</sub>-D receptor.

Claim 23 (previously amended) The method of claim 21, wherein said antagonist is a chemical compound that binds to said 1,25-(OH)<sub>2</sub>-D receptor.

Claim 24 (previously amended) The method of claim 21, wherein said antagonist is 1- $\beta$ , 25, dihydroxyvitamin D.

Claim 25 (**currently amended**) The method of claim 38, comprising A method of modulating, attenuating, or decreasing obesity in an individual comprising the administration of a 1, 25-dihydroxyvitamin D (1,25-(OH)<sub>2</sub>-D) antagonist.

Claim 26 (previously amended) The method of claim 25, wherein said 1, 25-dihydroxyvitamin D (1,25-(OH)<sub>2</sub>-D) antagonist is an antibody that binds to 1,25-(OH)<sub>2</sub>-D.

Claim 27 (previously amended) The method of claim 25, wherein said 1, 25-dihydroxyvitamin D (1,25-(OH)<sub>2</sub>-D) antagonist is a chemical compound that binds to 1,25-(OH)<sub>2</sub>-D.

Claim 28 (cancelled).

Claim 29 (original) The method of claim 25, wherein said antagonist comprises one or more soluble 1,25-(OH)<sub>2</sub>-D receptors.

Claims 30-34 (cancelled).

Claim 35 (**currently amended**) The method of claim 21 25, wherein the individual has Grade I obesity.

Claim 36 (**currently amended**) The method of claim 21 25, wherein the individual has Grade II obesity.

Claim 37 (**currently amended**) The method of claim 21 25, wherein the individual has Grade III obesity.

Claim 38 (previously added) A method of regulating body weight comprising administering to an individual regulating body weight an antagonist of calcitrophic hormone (1,25-(OH)<sub>2</sub>-D) activity in an amount effective to block calcitrophic hormone (1,25-(OH)<sub>2</sub>-D) activity in adipocytes of said individual, said antagonist inducing weight loss, preventing weight gain and/or increasing metabolic consumption of adipose tissue.

Claim 39 (previously added) The method of claim 38, wherein the antagonist comprises a 1,25-(OH)<sub>2</sub>-D receptor antagonist selected from the group consisting of an antibody that binds to said 1,25-(OH)<sub>2</sub>-D receptor and a chemical compound that binds to said 1,25-(OH)<sub>2</sub>-D receptor.

Claim 40 (previously added) The method of claim 38, wherein said antagonist is an analog, homolog or isomer of 1,25-(OH)<sub>2</sub>-D that binds to the 1,25-(OH)<sub>2</sub>-D receptor and antagonizes the function of the receptor.

Claim 41 (previously added) The method of claim 38, wherein said antagonist is 1- $\beta$ , 25, dihydroxyvitamin D.

Claim 42 (previously added) The method of claim 38, wherein the antagonist comprises a 1,25-(OH)<sub>2</sub>-D antagonist selected from the group consisting of an antibody that binds to said 1,25-(OH)<sub>2</sub>-D, a chemical compound that binds to said 1,25-(OH)<sub>2</sub>-D, one or more soluble 1,25-(OH)<sub>2</sub>-D receptors, 1,25-(OH)<sub>2</sub>-D neutralizing antibodies; soluble 1,25-(OH)<sub>2</sub>-D receptor; fusion proteins comprising the 1,25-(OH)<sub>2</sub>-D receptor; and compounds comprising calcium.

Claim 43 (previously added) The method of claim 38, wherein the antagonist comprises calcium.

Claim 44 (previously added) The method of claim 38, wherein the antagonist comprises calcium carbonate.

Claim 45 (previously added) The method of claim 38, wherein said antagonist comprises dietary calcium.

Claim 46 (previously added) The method of claim 45, comprising administering over a prolonged period a dietary supplement comprising calcium, a foodstuff supplemented with calcium, or another food high in calcium.

Claim 47 (previously added) The method of claim 46, wherein the prolonged period is at least about one month.

Claim 48 (previously added) The method of claim 47, wherein said dairy product is milk, yogurt, and/or cheese.

Claim 49 (previously added) The method of claim 38, wherein said administration comprises administering a dairy product.

Claim 50 (previously added) The method of claim 38, wherein the antagonist is contained in a liquid.

Claim 51 (previously added) The method of claim 50, wherein the liquid is supplemented with calcium.

Claim 52 (previously added) The method of claim 38, wherein said antagonist is contained in food for a non-human animal.

Claim 53 (previously added) The method of claim 38, wherein the antagonist blocks the action of 1,25-(OH)<sub>2</sub>-D in adipocytes.

Claim 54 (previously added) The method of claim 38, wherein the administering decreases the levels of calcitrophic hormones in the adipocytes.

Claim 55 (previously added) The method of claim 38, wherein the calcitrophic hormone activity in adipocytes that is blocked is selected from one or more of inhibiting lipolysis, stimulating lipogenesis, increasing adiposity, stimulating triglyceride accumulation, increasing intracellular calcium concentration ([Ca<sup>2+</sup>]<sub>i</sub>), inhibiting adipocyte uncoupling protein 2 (UCP2) expression and/or stimulating fatty acid synthase (FAS) activity.

Claim 56 (**currently amended**) The method of claim 38, wherein the antagonist reduces the risk of an obesity related health problem selected from the group consisting of coronary artery disease, stroke, diabetes, osteoarthritis, ligament injuries, perineal dermatitis, diabetes mellitus, cardiomyopathy, and urologic syndrome.

Claim 57 (previously added) The method of claim 38, wherein the individual is a human.

Claim 58 (previously added) The method of claim 38, wherein the individual is a non-human animal.

Claim 59 (previously added) The method of claim 38, wherein the antagonist stimulates lipolysis and inhibits lipogenesis.

Claim 60 (previously added) The method of claim 38, wherein the antagonist blocks calcitrophic hormone induced inhibition of lipolysis in adipocytes.

Claim 61 (previously added) The method of claim 38, wherein the antagonist suppresses adiposity, inhibits triglyceride accumulation, reduces intracellular calcium concentration ( $[Ca^{2+}]_i$ ), increases adipocyte uncoupling protein 2 (UCP2) expression, increases core temperature, accelerates weight loss and fat mass reduction in an individual under caloric restriction, and/or prevents stimulation of fatty acid synthase (FAS) activity.

Claim 62 (previously added) The method of claim 38, wherein the antagonist suppresses adiposity and inhibits triglyceride accumulation by stimulating lipolysis and inhibiting lipogenesis.

Claim 63 (previously added) The method of claim 38, wherein the antagonist suppresses or decreases intracellular calcium concentration ( $[Ca^{2+}]_i$ ).

Claim 64 (previously added) The method of claim 38, wherein the antagonist increases adipocyte uncoupling protein 2 (UCP2) expression.

Claim 65 (previously added) The method of claim 38, wherein the antagonist increases core temperature.

Claim 66 (previously added) The method of claim 38, wherein the antagonist induces a metabolic state in which the energy metabolism is shifted from energy storage to energy expenditure.

Claim 67 (previously added) The method of claim 38, wherein the antagonist accelerates

weight loss and/or fat mass reduction in an individual under caloric restriction.

Claim 68 (previously added) The method of claim 38, wherein the antagonist prevents calcitrophic hormone stimulation of fatty acid synthase (FAS) activity.

Claims 69-77 (**cancelled**)